

DIRTY DECADE

A LOOK AT 10 YEARS OF THE DIRTY DOZEN AWARDS



TOXICS ACTION CENTER

Dirty Decade

A Look at 10-Years of the Dirty Dozen Awards

**Toxics Action Center
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Acknowledgements

We would like to thank all of the Dirty Dozen Award selection committee members over the last decade for their assistance in choosing the sites to recognize. We would also like to thank the community members who nominated sites selected to receive Dirty Dozen Awards.

For 20 years, Toxics Action Center has assisted residents and community groups across New England to address toxic pollution issues. For more information about Toxics Action Center, please contact our offices at the number below or online at www.toxicsaction.org.

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Introduction

Since 1997, the Dirty Dozen Awards have shined a spotlight on egregious polluters and toxic threats in New England. Over the last decade, a number of award winners have changed their poor practices and cleaned up their act, while others have not. This report highlights twelve bad actors that have received a Dirty Dozen Award within the past decade and have failed to make substantial improvements to their pollution problems.

This report also reflects on pollution trends over the last ten years, how these trends have impacted Dirty Dozen Award winners' actions, and recommendations for long-term solutions to pollution problems.

The initial Dirty Dozen Awards were given only to Massachusetts polluters. As Toxics Action Center expanded its work throughout New England, the Dirty Dozen Awards also expanded - first to Connecticut, then to Maine, and now award winners are found in every New England state. Each year citizens affected by pollution or potential pollution problems have nominated sites for the Dirty Dozen Awards. Over the last decade, more than 500 sites have been nominated. A selection committee of legal, environmental, public and worker health and safety experts have chosen more than 200 award winners over the years. These winners were "honored" with media events and physical awards, bringing attention to their pollution problems and requesting a positive solution.

To choose this year's Dirty Decade Awards, Toxics Action Center staff reviewed hundreds of past winners and selected 60 sites that showed a continued egregious threat to public health and the environment. Those 60 sites were then reviewed by Toxics Action Center alumni and the Executive Director, who chose 30 sites to present to the selection committee. The final 12 winners were chosen by a selection committee of eleven members, whose names and affiliations, used for identification purposes only, are listed below:

- Melissa Boyd- Physicians for Social Responsibility, Maine
- Phil Brown- Brown University, Rhode Island
- Sandra Cort- Learning Disabilities Association of Maine
- Steven Fischbach- Rhode Island Legal Services
- James Celenza- Rhode Island Committee on Occupational Safety and Health
- Geoffrey Ransom- Baldwin, Callen & Ransom, PLLC, New Hampshire
- Chris Phelps- Environment Connecticut
- Steve Taylor- Environmental Health Strategy Center, Maine
- Anthony Z. Roisman- National Legal Scholars Law Firm, P.C., New Hampshire
- Stephanie Kaplan- Attorney at Law, Vermont
- Alyssa Schuren- Toxics Action Center, Massachusetts

The twelve Dirty Decade Award sites chosen highlight a wide array of toxic hazards including a textile mill whose contamination has leached into groundwater, a PCB-laden waste site and a quasi-public agency that has institutionalized trash incineration over true waste solutions. All of these sites pose a significant threat to public health and the environment and need immediate action by industry and/or government officials.

Recommendations to Prevent Future Dirty Decade Award Winners

Most of the Dirty Decade Award winners are dinosaurs. Their business practices have not changed with the times and are becoming extinct. Below are recommendations on how these polluters can change to advance solutions that promote a clean and healthy environment, and also how policy makers and regulators can support that positive change. The Dirty Decade Award winners fall into four main categories: hazardous waste clean up, solid waste management, nuclear energy, and current chemical use.

Hazardous Waste Cleanups Need Resources & True Solutions

Dirty Decade Award Winners: Charbert Mill in Alton, RI; General Electric in Pittsfield, MA; Gorham/Textron Site in Providence, RI; and Olin Chemical Sites in Hamden & Wilmington.

The best solution for dealing with hazardous waste is to not create it in the first place. As much as possible, we should be replacing the toxic chemicals used in today's society with safer, effective alternatives. Fortunately, some states have recently passed policies to do just that. Even though these policies will create a healthier, less toxic future, we will still need to tackle the hazardous waste problems of the past.

Over the last decade, the cornerstone environmental and public health laws that have protected our communities, the Clean Air Act and Clean Water Act, have been weakened and under-funded. In addition, the U.S. Environmental Protection Agency's (EPA) Superfund program is bankrupt, forcing taxpayers to foot cleanup bills or regulators to leave the pollution problems to "naturally attenuate." Since the beginning of the Superfund program, the current Bush administration is the only administration that has refused to support the polluter-pays principle, effectively allowing polluting companies to avoid paying for their toxic messes. In addition, the price tag on cleanups has greatly increased: from \$300 million in 1995 to more than \$1 billion in 2004.¹

Even the cleanups that do occur are not a complete solution. Most hazardous waste from cleanups is dumped into lined landfills, which the EPA states will eventually leak, contaminating the surrounding communities. Remedial technologies can be prohibitively expensive, and in some cases have separate pollution concerns associated with them.

In order to truly address the issue of hazardous waste, decision-makers should pass preventative policies that restrict and ban hazardous chemical use. Our federal environmental laws must be strengthened, and the "polluter-pays" principle should be put back into the Superfund program. In addition, state environmental agencies should be granted appropriate resources in order to ensure that polluting companies are held accountable, and to launch prevention programs. The EPA should also put resources into the research and development of new, safe hazardous waste remedial technologies.

Moving Beyond Burning & Burying, Towards Zero Waste

Dirty Decade Award Winners: Connecticut Resource Recovery Authority in Hartford, CT; Casella's Juniper Landfill in Old Town, ME; Wheelabrator Incinerator in Claremont, NH.

In today's system of waste management, the three R's - reduce, reuse, and recycle - only take us so far. It's time to add a fourth "R" - restructure, because that's what is needed in our waste management system if we are ever going to truly solve our waste problems.

Currently resources move through society in a linear fashion: raw materials are extracted, processed into consumer goods, consumed, and disposed of through burning and burial. Waste incinerators spew hazardous dioxins and furans, polychlorinated biphenyls (PCBs), and heavy metals into the air and export the remaining toxic ash to be landfilled.ⁱⁱ Landfilling is not an appropriate solution to our waste problem either, as the EPA states that all landfills will eventually leak. Landfills can produce toxic leachate, carbon dioxide, methane, natural gas, and can leak a variety of hazardous volatile organic compounds, such as paint thinners, solvents, and pesticides.ⁱⁱⁱ

In order to break the cycle of burning and burying waste, a zero waste goal and model should be adopted. A zero waste model offers a circular system of resource management – rather than linear – in which the resources discarded are looped back into the economy to be reused, reprocessed or composted. In treating discarded resources as actual resources, the pollution threats of waste disposal facilities are curbed and enormous amounts of energy are saved. The need for virgin material extraction is also reduced. In 2001, the nation achieved a waste diversion rate of 30%, which conserved the energy equivalent to the annual energy use of 6.5 million homes.^{iv} Furthermore, the infrastructure required by a zero waste model provides, per ton of discard, ten times more jobs than traditional waste disposal facilities.^v

Policy makers and regulators must create policies and plans to support a zero waste goal and model, cancel contracts with incinerators, and phase out the use of landfills. Traditional waste managers should shift their businesses to fit within a zero waste model. Hauling and sorting centers are at the crux of making a zero waste system work, and can be a lucrative and a positive investment in our future.

Ensuring a Safe, Renewable, Nuclear-Free Future

Dirty Decade Award Winners: Millstone Nuclear Plant in Waterford, CT; Pilgrim Power Station in Plymouth, MA; and Entergy Nuclear Vermont Yankee in Vernon, VT.

Nuclear power is dirty, dangerous and expensive. It creates millions of tons of highly radioactive waste and there are not any good treatment or storage solutions. The radiation created by this waste and other nuclear plant functions is a dangerous health hazard because it can destroy cells in the human body, leading to cancer and other health problems. Nuclear power is expensive due to the high cost of building, maintaining, insuring, securing and decommissioning nuclear reactors. In addition, the nuclear industry is highly subsidized by taxpayers. There are also grave concerns surrounding the safety of nuclear power plants, especially in a post September 11th world. An accident or terrorist attack on a nuclear plant could be catastrophic.

An increasing imperative to solve global warming, coupled with rising oil prices has breathed new life into the dormant U.S. nuclear industry. Nuclear power is not the answer to our energy needs, however. It is not a carbon dioxide-free form of power generation. Especially when one considers the energy required to build, fuel, run and dismantle a nuclear plant. True solutions can be found in energy conservation and renewable energy sources.

The nuclear plants brought online decades ago are now suffering from a series of challenges that trigger even further safety, health and environmental concerns, such as the collapse of Entergy Nuclear Vermont Yankee's cooling tower in August 2007. These failures can be expected to continue as the plants move closer to the end of their operating licenses. Existing nuclear facilities should be decommissioned, not relicensed, and adequate resources should be provided by companies operating nuclear power plants for their decommissioning process. New nuclear plants should not be permitted or built.

Phasing Out the Persistence of Toxic Chemicals

Dirty Decade Award Winner: TruGreen ChemLawn.

Modern chemistry has done wonders to improve industrial capacity and extend human life. But too often, the chemicals used in pesticides, cleaning products and manufacturing processes also threaten our health and environment. Chemicals such as DDT and PCBs are reported to be a problem of the past, but these hazards have been replaced with pesticides, plasticizers and flame retardants. And these chemicals can be found in household products such as lotions, frying pans, cell phones and upholstery. Our bodies absorb chemicals and retain them for years.

Every year, the EPA reviews an average of 1,700 new chemical compounds. The 1976 Toxic Substances Control Act requires prior evidence of potential harm before requiring testing of a compound up for approval. Without this evidence, testing isn't required, and frequently, this type of information is not yet available for new chemicals, leading to the approval of about 90 percent of new chemicals without restriction. Only one quarter of the approximately 82,000 chemicals used in the U.S. have been tested for toxicity.^{vi}

We are seeing chemicals take their toll on our health, as illnesses continue to rise. For example, over the last two decades, autism increased tenfold, male birth defects doubled and childhood brain cancer was up 40 percent.^{vii} According to the EPA, more than 70 active pesticide ingredients known to cause cancer in animals are allowed for use. Exposure to tiny amounts of mercury, lead, dioxins, PCBs or other chemicals, which may have little impact on an adult, can greatly harm children whose bodies are still developing. Additionally, the toxins that a mother is exposed to during pregnancy can be passed on to her developing child before birth.

Unnecessary chemical exposure is a regulatory problem: currently our government is not protecting us from toxic exposures. All chemicals on the market should be tested and approved from a precautionary viewpoint. We must ensure that unnecessary chemical use does not occur and that all chemicals used are the safest options.

Corporations also have a major role to play in reducing the harm created by toxic exposures. This is especially true for corporations whose business it is to apply chemicals. Corporations such as TruGreen ChemLawn should lead the country in non-toxic lawn care options and protect the health of children. For example, TruGreen ChemLawn previously partnered with U.S. Youth Soccer to advertise their pesticide products. Corporations peddling toxic products should never partner with children's organizations, like U.S. Youth Soccer, which could lead to further toxic exposure of children. In addition, while transitioning to a non-toxic lawn care company, TruGreen ChemLawn should disclose the ingredients in its products, including inert ingredients. Corporations, such as TruGreen ChemLawn, should be part of the solution, not the problem.

Dirty Decade Award Winners

General Electric – Pittsfield, MA – 1998, 2002

General Electric's Toxic Legacy

In 1903, General Electric (GE) began operating a 254-acre manufacturing facility in Pittsfield on the banks of the Housatonic River. Over the next fifty years, GE performed many functions at their location in Pittsfield, but processes they used in their Transformer Division were most toxic. During construction and repair of electrical transformers, GE used PCBs for decades as an insulating fluid. From 1932 to 1977, GE reported that releases of PCBs reached waste and storm water systems for the plant and carried contamination into the East Branch of the Housatonic River and to Silver Lake. In addition, efforts to straighten areas of the Housatonic River by the City of Pittsfield and U.S. Army Corps of Engineers resulted in 11 former oxbows being isolated from the river channel and filled with materials later discovered to contain PCBs and other toxins.

The Massachusetts Department of Environmental Protection (DEP) began investigating the site in the early 1980s, resulting in two consent orders. The EPA issued a Corrective Action Permit under the Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA) in 1991. EPA nominated the site for the Superfund National Priorities List in 1997. Later in the year, federal and state government agencies and GE began negotiating a settlement which included remediation, redevelopment, and restoration pieces. Finally in 2000, a Consent Decree was approved in federal court providing for cleanup of the GE plant facility, cleanup and restoration of Silver Lake and of the former oxbows, cleanup of Allendale School, environmental restoration of the Housatonic River, and recovery of costs and damages.^{viii} The site was never formally placed on the Superfund National Priorities List because consent orders were reached.

PCBs have been found in the Housatonic River and floodplain in both Massachusetts and Connecticut. The manufacture of PCBs in the United States was halted in 1997 because of their harm to the environment and public health. Exposure to PCBs is known to cause skin conditions in adults, neurobehavioral and immunological changes in children, and cancer in animals. PCBs can travel long distances in the air and be deposited far away from where they were released. PCBs can dissolve in water, but most stick to bottom sediments and organic particles and bind strongly to soil. They bioaccumulate, and EPA has determined that PCBs are probable carcinogens.^{ix}

GE has agreed to EPA's charge to clean up the Housatonic River but has failed to address potential PCB pollution at residences affected by the "free fill" GE handed out decades ago. Some testing and cleanup of homes has occurred, but large areas of town remain untested. Additionally, fifty feet from Pittsfield's Allendale Elementary School sits General Electric's Hill 78. Hill 78 was categorized as a Tier I hazardous waste site, among the most toxic in Massachusetts, before remedial actions began in 1997. The soil from Hill 78, dumped there by GE contains PCBs at 60,000 times acceptable levels. The health of children attending the school, as well as the health of nearby residents is at risk.

1998, 2002 Dirty Dozen Awards

GE received a Dirty Dozen Award in 1998 when the Housatonic cleanup was beginning and right after contamination on residential homes was discovered. Residents and Toxics Action Center called for a clean up of residential properties as well. Then in 2002, citing lack of action to clean up Hill 78, members of the Housatonic River Initiative (HRI), Pittsfield residents, and Toxics Action Center presented GE with a second Dirty Dozen Award, focused just on the Hill 78 area.

GE, State and Federal Regulator's Response

Soon after the 2002 Dirty Dozen Award, EPA released an announcement saying that HRI and Toxics Action Center were wrong and there was nothing unsafe about the dump. Residents remain concerned about PCB-contaminated soil blowing offsite. In the past decade, GE has been ordered to conduct cleanups across the country, including PCB contamination in the Hudson River of New York State^x, soil and groundwater contamination at the Fletcher's Paint Works Superfund site in Milford, New Hampshire,^{xi} and hazardous wastes at the Shepherd Farm NPL Superfund Site in North Carolina.^{xii} Ninety-seven Superfund sites currently on EPA's National Priorities List can be linked to GE or its subsidiaries.^{xiii}

2007 Dirty Decade Award

Although for years residents have asked for stronger cleanup actions to protect children at Allendale Elementary School, GE and EPA refuse to renegotiate their consent agreement. GE is currently using low-level contaminated wastes to cap Hill 78, dumping contaminated soil excavated from waste sites found on residential and commercial properties as well as PCB-laden soil dredged from remedial work the company is conducting on the Housatonic River. They are essentially capping PCBs with more PCBs, failing to initiate any sort of long-term solution that would protect children's health in a precautionary manner. These toxins have been found in air tests at the school, and because there is not a sufficient cap on Hill 78, PCBs can continue to blow away in the wind, migrating offsite. In addition, GE maintains that a cap is enough to contain the waste and continues to refuse to excavate the contaminated soil and remove it from the property. It is also possible that contamination remains on residential properties. In the past, Housatonic River Initiative forced EPA to test 320 homes. Over 175 had to be excavated and cleaned up, approximately 50% of homes tested. Much of the community has still not been tested for contamination.

Solution for GE's Pollution

Hill 78 should be excavated and treated to remove the PCBs, or the soil should be properly disposed of in a hazardous waste landfill. There are alternative remediation processes for PCBs and the EPA and GE should commit to more fully researching solutions for the contamination and the possibility of treating waste on-site. In addition, with no cleanup in sight for the school, the children should be moved to another location. This would protect the children's health but would not solve the continuing problem and risk for the neighbors living right next to the school.

Connecticut Resources Recovery Authority- Hartford, CT- 1998

Connecticut Resources Recovery Authority's Toxic Legacy

The Connecticut Resources Recovery Authority (CRRA) is a quasi-public agency established by the state in 1973. Prior to 1973, most towns across the state disposed of their waste in small town dumps. The state's plan was to replace this system with a major commitment to waste incineration as well as a recycling program and lined landfills.^{xiv}

CRRA operates four out of the six trash-to-energy incinerators in the state, most located in low-income communities and communities of color. Trash-to-energy facilities burn garbage and use the heat generated to boil water and create steam to spin a turbine and generate electricity.^{xv} Their Bridgeport facility consists of a 2,250 ton-per-day mass-burn waste incinerator, eight transfer stations, two landfills, and a regional recycling center. Mass-burn means that there is no front-end separation of recyclable or non-combustible material from waste burned in the facility. The Bridgeport facility is operated by Wheelabrator Technologies.^{xvi} CRRA's Mid-Connecticut Project in Hartford consists of a 2,850 ton-per-day refuse-derived fuel incinerator, four transfer stations, and the Hartford landfill, slated to close in 2008. The incinerator is run by Covanta, and waste is processed before burning so that recyclable metals and non-combustible materials like glass and metal are separated out and sent to processors before the remaining waste is shredded and burned.^{xvii} The Southeast Project in Preston is a 690 ton-per-day mass burn facility, and the Wallingford Project is a 420 ton-per-day mass burn facility. The Board of Directors for CRRA is appointed by the Governor, Senate President Pro Tempore, Senate Minority Leader, Speaker of the House, and House Minority Leader.^{xviii}

Waste incineration creates some extremely toxic chemicals including lead, mercury, dioxins, and furans.^{xix} Because of a constantly changing waste stream and the need to maintain very high temperatures, incinerators do not maintain a consistent combustion rate over time. They may pass a stack test one day, and be out of compliance the next. In addition, incinerators produce toxic ash when the toxic chemicals and heavy metals in the waste concentrate in leftover material at the bottom of the stack. This waste must then be disposed of in a landfill. Incineration does not eliminate waste; it simply redistributes toxic chemicals into the air and produces another form of waste (ash) to be landfilled.

Connecticut residents generate 3,805,000 tons of municipal solid waste (MSW) every year, more than one ton per person. Fifty-seven percent of MSW is disposed of in waste-to-energy incinerators across the state, more than any other state in the country. Thirteen percent of waste is disposed of in either in-state or out-of-state landfills.^{xx}

1998, 2000, 2005 Dirty Dozen Awards

Over the years, CRRA received Dirty Dozen awards for landfill expansions, incineration issues, and bringing hazardous waste to the Hartford landfill. Most recently in 2005, CRRA proposed expanding the Hartford incinerator, the largest in the state, as well as the Hartford landfill. They also proposed to create two new landfills in Connecticut using eminent domain, without input from the public or public officials.

CRRA and State Regulator's Response

Soon after receiving the 2005 Dirty Dozen award, CRRA put an environmental equity policy onto their website. In the past year, CRRA proposed expanding their recycling facility in

Hartford. The City of Hartford has the second lowest recycling rate in the state and the largest recycling facility. Because CRRA proposed expanding their facility with no discussion of increasing recycling in the city, the Connecticut Coalition for Environmental Justice (CCEJ) opposed the expansion. DEP soon stated that they would not approve the expansion of the landfill unless CRRA negotiated with the city for host-community benefits. CRRA negotiated with the city and agreed to close the landfill in December of 2008 and provide funding to retrofit their off-road construction equipment with cleaner technology. In addition, they agreed to retrofit garbage trucks and increase funding for recycling by \$350,000 in the city of Hartford.

2007 Dirty Decade Award

CRRA recently re-expressed interest in expanding the incinerator in Hartford and lobbied to reclassify incinerators as “class I renewable sources,” qualifying them for incentives given to clean, renewable energy sources like wind and solar. Seventy-seven Connecticut towns, boroughs of New York City and towns in Massachusetts send their trash to Hartford to be burned at the CRRA incinerator. The Hartford incinerator alone is responsible for over 50% of Hartford’s industrial air pollution and is one of the largest sources of dioxin and mercury in the state. Asthma rates in Hartford are twice the national average – 17%.

Last year CRRA hired a consultant to do a report on the feasibility of expanding the Hartford incinerator. The report found that CRRA could produce more electricity by bringing in more trash. The agency has said that it plans to shut down the Wallingford incinerator because it is too expensive to operate, and have been negotiating with the Town of Wallingford to replace it with a trash transfer station.

Solution for CRRA’s Waste Problem

Incinerators emit sulfur dioxide, nitrogen oxides, mercury, lead, particulate matter, dioxins, and carbon monoxide. These air pollutants have been linked to birth defects, asthma, respiratory disease, and cancer. Land filling waste poses a similar threat to the health of Connecticut residents. The EPA states that all landfills eventually leak, and what they leak, both into groundwater supplies and into the air, is toxic. Connecticut needs to take steps away from burning and burying its trash, which pollutes air and water and threatens public health. In addition to increasing recycling, state agencies like CRRA and the Connecticut Department of Environmental Protection (DEP) must reduce waste at its source. Connecticut should implement a “zero waste” plan that includes aggressive recycling, commercial composting programs, and education programs focused on reducing waste. Zero waste includes ‘recycling’ but goes beyond it by taking a ‘whole system’ approach to the vast flow of resources and waste through society. Zero waste maximizes recycling, minimizes waste, reduces consumption and ideally ensures that products are made to be reused, repaired or recycled back into nature or the marketplace. Economic incentives should promote closed-loops, bringing consumer discards back to manufacturers and contractors to reprocess and reuse. Connecticut’s largely public sector waste management system, CRRA, provides a unique opportunity for transition to a zero waste program. Connecticut should retire its incinerators and create a goal of zero waste and an implementation plan for how to reach it.

Olin Chemical Company - Hamden, CT - 2001

Olin's Toxic Legacy in Hamden

During much of the 1800s, lands that the Newhall neighborhood in Hamden now sits upon were sparsely populated areas with large farms and many wetlands. Ponds, streams, and other wetland areas dotted the landscape. In the early 1900s residential areas were constructed to provide housing for workers employed at the Winchester Repeating Arms Factory. Winchester was the largest employer in the neighborhood, employing over 2,600 workers around 1900. Formed in 1866, Winchester manufactured rifles, ammunition and shotguns at their Winchester Avenue factory in New Haven. During World War I the plant expanded and the neighborhood continued to grow. Mill Rock Park and Rochford Field were developed in 1939 after many years of use as a refuse dump. After WWI, Winchester began manufacturing household items in addition to weapons and they soon went broke. In 1931, the company was purchased by Olin Corporation.

As Hamden's urban center expanded, wetlands were viewed as waste lands leading to the spread of diseases like malaria and were either filled or drained. In 1977 it was considered acceptable to dispose of waste in wetlands and other water bodies not considered navigable waterways. In addition, a number of dumps were created in 1917 where both industrial and household wastes were taken for disposal. Winchester wastes included coke, ash and cinder from their industrial processes. In 1950, the Town of Hamden bought one of Winchester's dump sites from the New Haven Water company. The Hamden Middle School was built there and opened in 1956. Soil tests revealed lead and other metals as early as 1979, but no remedial actions were taken until 1993, when plans to expand the middle school failed due to discovered contamination.^{xxi}

In 2000, the Department Environmental Protection (DEP) began testing for contamination in the surrounding neighborhood and discovered extensive contamination under Rochford Field, Mill Rock Park, additional contamination at the Hamden Middle School, and underneath more than 250 homes in South Hamden. Concerned residents formed the Newhall Coalition and began to work for a full cleanup of the neighborhood. In July 2001, DEP ordered the Town of Hamden, Regional Water Authority, State Board of Education, and Olin Corporation to clean up the polluted soil. All parties appealed the order. Soon after, the EPA executed limited soil removal on 13 residential properties due to imminent risk. In 2003, the responsible parties signed a consent order agreeing to cleanup actions.

Principal contaminants of concern include lead, arsenic, and polycyclic aromatic hydrocarbons (PAHs).^{xxii} Contamination has been found underneath over 226 homes. At over 135 of those properties, waste extends deeper than four feet underground.^{xxiii} Recent studies by Tulane University show that there is no safe level of exposure for lead.

2001 Dirty Dozen Award

In 2001, the Newhall Coalition demanded that the state do more testing for contaminants because at that point they had only done testing at the middle school. The award was given to Olin to encourage the company to fully participate and offer resources in that testing process.

Olin, Town & State Regulator's Response

Connecticut DEP completed testing for contamination in the neighborhood and found over 250 affected properties. They formed the Newhall Advisory Committee to provide advice to the state and recommendations for cleanup. The Hamden Middle School was shut down and relocated in 2006 because of contamination. Soon after the award was given, EPA came in and conducted a limited removal of toxic fill for immediate risk.

2007 Dirty Decade Award

The State of Connecticut has been weighing cleanup alternatives for years and soliciting feedback from the community. In October, DEP released its final plan to clean up the neighborhood. This plan would remove the top four feet of soil from contaminated areas underneath 226 homes in the neighborhood, replacing it with clean fill. The state is proposing to leave 135 of those homes with waste underneath the ground and is relying on the town to rezone the neighborhood to create a "local design district," requiring residents to get special permits to do routine renovations and additions onto their houses, which involved digging beneath four feet under the soil.^{xxiv}

Solution for Olin Chemical's Hamden Site

The State of Connecticut needs to allocate additional funding for cleaning up the Hamden site and other hazardous waste sites across the state. Homeowners in the Newhall neighborhood should not be left with deed restrictions on their properties or zoning changes that would mark the neighborhood and restrict how residents use their properties in any way. The ideal solution for cleaning up toxic waste in residential neighborhoods should be complete removal, and the state should prioritize removing waste and properly disposing of it whenever possible. Waste removal should also be prioritized at middle school and public parks in the neighborhood.

Pilgrim Power Station - Plymouth, MA - 2001

Pilgrim Power Station's Toxic Legacy

Pilgrim was designed and constructed in the 1960's - when the Motown sound was born and the Supremes became popular and the Beatles made their debut on the Ed Sullivan show. It was given a 40 year license to operate until 2012. Additionally, Pilgrim has applied to extend operations another 20 years, until 2032. It doesn't seem wise for an antique nuclear reactor built in the 1960's to continue to operate until 2032.

The original plan was to put Pilgrim's reactor in Quincy, overlooking present day University of Massachusetts at Boston; but proximity to Boston was judged as too risky. Plymouth was chosen instead because of its sparse population. Southeastern Massachusetts now is no longer sparsely populated; it is the fastest growing area of the state and its infrastructure is not currently capable of handling a timely evacuation if problems at Pilgrim occur. There are approximately 100,000 people living within 10 miles of the reactor and 165,000 predicted to be there by 2032.^{xxv} A disaster would contaminate far more than 10 miles. In 1982 the Sandia National Laboratory calculated reactor accidents for US Nuclear Plants;^{xxvi} those calculations extended well beyond 10 miles and were conservative. For example a core melt at Pilgrim, would result in a 20 miles peak 1st year fatal radius and a 65 miles peak 1st year injury radius. The spent fuel pool fire would create thermal plumes that could potentially transport radioactive aerosols hundreds of miles downwind under appropriate atmospheric conditions.^{xxvii}

Accidents of serious consequence can happen either from mechanical failure, human error or a terrorist attack. The National Academy pointed to reactors designed like Pilgrim as most vulnerable to attack because their spent fuel pools, which contain tons of highly poisonous assemblies, are located in the attic of the reactor, and outside primary containment. The Massachusetts Attorney General evaluated the consequence of a spent fuel pool fire at Pilgrim in May 2006 and concluded that a 100% release of just one isotope Cesium-137 could result in \$488 billion dollars in damages and 24,000 cancer deaths – not to mention other health effects.

Pilgrim releases radiation daily into the air and water. The National Academy of Sciences Committee on Biological Effects of Ionizing Radiation issued their most recent report in 2005 and stated that even very low doses of radiation pose a risk of cancer, reproductive disorders, birth defects and other health problems and that there is no threshold below which exposure can be viewed as harmless. The effects bioaccumulate and act synergistically with other toxins, such as those emitted from the dirty coal plant located one town south of Plymouth. The footprints of radiation-linked diseases have been documented in communities near Pilgrim since the 1970's. The population is already damaged and its toleration for more assaults therefore limited.

Pilgrim Power Station also harms the ecosystem surrounding the plant. Pilgrim produces more heat than it needs and uses Cape Cod Bay for coolant. It brings 487,840,000 gallons of water through the reactor each day from Cape Cod Bay, along with fish eggs and other marine life. The water becomes super heated traveling through the reactor and is released at about 30 degrees above normal Bay temperature- scouring the area and scalding fish and marine life.^{xxviii}

2001 Dirty Dozen Award

In the wake of September 11th, Americans were warned of an impending second terrorist attack, yet little was being done to prevent a disastrous attack aimed at the Pilgrim Power Station. According to the Nuclear Regulatory Commission, Pilgrim contains more than a 1,000 times the radiation levels of a Hiroshima-sized bomb and an attack could result in over 100,000 deaths within a year of the accident. In 2001, area residents and Toxics Action Center staff recognized Pilgrim Power Station with a Dirty Dozen Award, and requested that the plant temporarily close down until adequate safety measures were taken.

Pilgrim, State & Federal Regulator's Response

After the 2001 Dirty Dozen Award was given, and post the September 11th terrorist attacks, Governor Swift wanted to send a sizeable number of National Guard troops to Pilgrim. However, the industry objected to a large presence fearing it would be bad for public relations. A compromise was reached and only a handful of Guards were sent to Pilgrim's property, restricted to the perimeter. Residents feel that there are too few troops to be effective and have asked Governor Patrick's administration to shift the budget from the National Guard troops to instead fund an independent assessment of Pilgrim Power Station and the current emergency plan.

Recently, Pilgrim has applied for a license extension for an additional 20 years. The license application has been challenged by the Massachusetts Attorney General regarding spent fuel. The Nuclear Regulatory Commission (NRC) Atomic Safety Licensing Board refused to hear the case and it is currently on appeal to the 1st circuit Federal Court. A citizens group has challenged the license extension on technical safety and environmental grounds. One issue has been accepted for adjudication regarding leaks from buried pipes and tanks that could risk the safety of the systems and leak contamination into Cape Cod Bay and two other contentions on spent fuel and severe accident mitigation have been appealed. So far all 48 reactors that have requested a license extension have been given one by the NRC.

2007 Dirty Decade Award

The radioactive waste stored at Pilgrim is a grave environmental, health and safety threat. In addition, Pilgrim's design is among the worst in the country. As any mechanical system ages, problems arise. The results of this aging can be seen in Pilgrim's sister plant Vermont Yankee, where a cooling tower collapsed in August 2007. The NRC's oversight did not provide the level of safety needed to prevent this collapse. Given Pilgrim's poor design, increasing surrounding population, and consistent request to extend their license without an independent safety assessment, they certainly deserve an award.

Solution Pilgrim Nuclear Power Station's Threats

Pilgrim Power Station should be safely decommissioned in 2012. The nuclear waste should be stored onsite in hardened dry casks dispersed throughout the site for security reasons. Adequate provisions should be made for the workers, and a study should be done by the Commonwealth to ensure there are enough funds to support decommissioning and maintain security and emergency planning until all waste is removed from the site

Millstone Nuclear Power Plant - Waterford, CT - 2002

Millstone's Toxic Legacy

Millstone Nuclear Power Plant in Waterford, CT near New London generates 2,020 megawatts of electricity from its two operational units, the equivalent needed to power 500,000 homes. Unit 1 began operating commercially in 1970 then shut down in 1998 and is slated to be decommissioned. Unit 2 began operating commercially in 1975, and Unit 3 began operation in 1986. Dominion bought the power plant in 2001,^{xxxix} taking over a power station that was once called the worst-run nuclear plant of the 1980s by the Union of Concerned Scientists.^{xxx}

Millstone was put on the Nuclear Regulatory Commission's (NRC) Watchlist in 1996, when it was revealed that members of the plant management retaliated against employee whistleblowers that raised nuclear safety issues.^{xxxi} All three nuclear reactors were shut down for more than a year until safety culture and technical issues had been addressed by the operator at the time, Northeast Utilities. In 2000, at least two 12-foot-long spent fuel rods were misplaced by crews working at Millstone, never to be recovered.^{xxxii}

The two operating nuclear reactors at the Millstone plant in Waterford release toxic chemicals and radioactive waste byproducts into the air and water and create a thermal plume harmful to marine life with their water discharges. Since the 1970s, winter flounder catches in Niantic Bay, where Millstone sucks in millions of gallons of water each minute in the process of cooling the reactors, have dwindled significantly. In 1999, a Connecticut judge ordered the plant closed until spawning season ended for the fish.^{xxxiii}

While the Millstone reactors are permitted to discharge certain chemicals under the federal Clean Water Act permit issued in 1992, the permit expired on December 15, 1997. Yet, the Connecticut Department of Environmental Protection (DEP) has allowed Millstone to continue discharging the toxic materials under the expired permit and allowed for further discharges under "emergency authorizations" without public notice or public hearing.

2002 Dirty Dozen Award

At a ceremony in front of the Connecticut DEP, concerned residents and environmentalists "honored" DEP Commissioner Arthur J. Rocque, Jr. and Millstone Nuclear Power Plant with a 2002 Dirty Dozen Award for thermal and toxic pollution of the Long Island Sound. The award, presented by Toxics Action Center staff, recognizes Millstone as posing as one of the most serious toxic health threats to the state, while recognizing Rocque for his lack of willpower to enforce protective laws. Because of the expired permit and the fish kills for Long Island Sound, Rocque was routinely issuing and renewing emergency authorizations. The DEP Commissioner can do that under the law but for very specific conditions. Since 1998, Millstone has been in a declared state of emergency so that Millstone could pollute more, suck in more water, and go about things in an unaccountable way. In 2001, when Millstone was being sold to Dominion, Millstone wanted one consolidated emergency authorization. The term of it is infinite and says that it expires when DEP renews their permit. The point of the Clean Water Act is that polluters have to go back every five years and show that they will make capital improvements and pollute less.

Millstone, State and Federal Response

The Connecticut Coalition Against Millstone (CCAM) was formed in 1998 to join organizations and individuals to campaign to close Millstone because of its harm to the environment and its health and safety risks. CCAM has been involved in litigation addressed to the toxic discharges as well as community activism to raise public awareness of the problems at Millstone.

In the wake of public disclosures of flagrant violations of the Millstone NPDES permit, DEP - which had failed to notice the violations during its perfunctory monitoring of the Millstone operations - brought an enforcement action in the state court. DEP settled the suit for a \$1.2 million fine. The U.S. Department of Justice also filed criminal information concerning the hydrazine discharges and other issues involving Millstone's submission of false records to the NRC. Northeast Utilities (NU) was fined a total of \$10 million for these federal felonies, although pursuant to the plea agreement, NU did not admit culpability.

In 2005, the NRC renewed the operating licenses of the Millstone Power Station, Units 2 and 3, for an additional 20 years.^{xxxiv} Dominion Nuclear Connecticut Inc. operates the plant. With the renewal, the license for Unit 2 is extended to July 31, 2035, and the license for Unit 3 is extended to Nov. 25, 2045.^{xxxv}

2007 Dirty Decade Award

Because of its radioactive waste stored onsite, Millstone is one of the most toxic sites in the region. For the last decade, Millstone has been operating without renewing its water permit. They have filed with NRC to increase generating capacity at Unit 3 by seven percent. Millstone was recently given approval by the Connecticut Siting Council to move spent fuel from Unit 2 to an above ground site. Connecticut Coalition Against Millstone believes that storing waste above ground poses an unacceptable risk to the public and appealed the decision. It is currently being reviewed by the Connecticut Supreme Court. Construction of the above-ground site has already begun, but if the group wins the appeal then they could be ordered to put it back. The water discharge permit under the federal Clean Water Act expired under its terms in 1997.

Solution to Millstone's Pollution Problem

There are alternatives to the water discharge process used at Millstone. At full power, the station has discharged billions of gallons of heated water laced with toxic chemicals and radioactive byproducts into the Long Island Sound. Some of the chemicals are known to be carcinogenic. Alternatives include the use of cooling towers and fans to minimize chemical and water usage.

Ultimately we should decommission dangerous nuclear plants like Millstone, store waste in dry casks onsite, and invest in clean, renewable energy sources and energy efficiency. In the meantime, DEP should order Dominion to install a closed-cycle cooling system.

Olin Chemical Site - Wilmington, MA - 2002

Olin's Toxic Legacy

Between 1953 and 1986 Olin Chemical's 51 Eames Street property was used for chemical manufacturing; beginning with National Polychemicals, Inc. (NPI), and later American Biltrite Rubber Co., Fisons Limited, Fisons Corporation, and Stepan Chemical Corporation. Olin Corporation purchased the property in 1980. Onsite, Olin produced chemical blowing agents, stabilizers, antioxidants and other chemicals for the rubber and plastics industry. Olin closed its doors in 1986, but currently remains the owner of the site.^{xxxvi}

During the early years of operation, wastewater disposal was a major source of contamination. Site owners and operators discharged wastes into several unlined pits and ponds. Later, these unlined pits and ponds were replaced with lined lagoons, which were periodically dredged, and the removed sludge was dumped into a landfill onsite. Liquid wastes continued to be released into an unlined ditch until 1972.^{xxxvii}

Many harmful chemicals were released onsite, including ammonia, sodium, chromium and NDMA (N-nitrosodimethylamine). Groundwater contamination, resulting from these chemicals and others used onsite, stretches in a plume spreading approximately $\frac{3}{4}$ of a mile west of Olin's property. This plume has forced closure of five municipal water supply wells which served thousands of people.^{xxxviii} Ammonia has also been found in the Aberjona River. In addition, a 1999 Massachusetts Department of Public Health childhood cancer study showed elevated levels of brain, leukemia, Hodgkin's and Non-Hodgkin's lymphoma. These elevated rates are currently being analyzed for their link to environmental contamination in the area, including the Olin Chemical site.

2002 Dirty Dozen Award

Citing Olin's refusal to conduct a comprehensive assessment or cleanup of its Wilmington property over the past 20 years, and prior to its sale, Wilmington and Woburn residents and Toxics Action Center presented the corporation with a 2002 Dirty Dozen Award. At that time, contamination, including ammonia and sodium sulfates from the 53-acre site was headed towards the town drinking water, as well as the Aberjona and Ipswich Rivers.

Olin, State & Federal Regulator's Response

Some work has been completed by Olin to contain wastes onsite, including construction of a slurry wall around waste pits, excavation of hot spots, and capping the calcium sulfate landfill, but toxic releases continue. In 2004, Olin's site was referred to the EPA Superfund program by Massachusetts' Department of Environmental Protection. In 2006 the site was added to the National Priorities List (NPL) by the EPA. The NPL is EPA's list of the country's most serious hazardous waste sites. In June 2007, EPA reached an administrative settlement agreement and order on consent with a group of Potentially Responsible Parties for Remedial Investigation and Feasibility Study activities at the site.^{xxxix}

2007 Dirty Decade Award

Olin Chemical's Wilmington site receives the Dirty Decade Award for its extensive environmental contamination and public health threats and for Olin's continued pursuit to sell their property prior to clean up. A sale prior to clean up would result in operation and

development on-site prior to EPA completing a full investigation of the extent of contamination.

Olin began its attempts to sell its Wilmington property to New England Transrail prior to its EPA listing on the NPL list. New England Transrail, based in Teaneck, New Jersey, is poised to purchase the property, and build and operate a warehouse and rail-reloading center. Materials expected to be transported and stored at the site include various chemicals, construction and demolition debris, municipal solid waste and contaminated soils. Disruption of the soil, caused by these operations, could result in increased negative impacts on health and the environment, shift groundwater flow underneath, and advance the chemical plume.

Solution for Olin Chemical's Site

Olin Chemical's site should not be sold prior to the EPA's completion of its analysis of the contamination and its recommendation of a remediation plan. This analysis and plan are critical to ensuring the cleanup of the aquifer, the physical site, and the eventual restoration of the public water supply. Olin Chemical's property should be remediated to a standard that will attract businesses that will add to the quality of life in Wilmington. The remedial design should also leave the site aesthetically pleasing and attractive to the Wilmington community.

TruGreen ChemLawn – Andover, MA & National - 2003

TruGreen ChemLawn's Toxic Legacy

TruGreen ChemLawn is the largest lawn care provider in the United States, serving more than 3.4 million households and annually generating more than \$2.3 billion in income.^{xli} TruGreen ChemLawn contributes to the yearly application of more than 70 million pounds of pesticides on some of America's 30 million acres of lawns. The amount of pesticides applied is significant; the rate of pesticides used on lawns is on average ten times more per acre than what is used on agricultural land. While the amount of pesticides used in agriculture, industry, commercial and government sectors has decreased over the past twenty years, the use of residential lawn and garden pesticides is on the rise. It is the one sector of the pesticides market that is growing.^{xli}

TruGreen ChemLawn's standard customer receipt lists 32 pesticides available for use through its residential lawn care program. An analysis of these pesticides by Toxics Action Center based on information from the pesticide manufacturer's Materials Safety Data Sheets reveals:^{xlii}

- 17 of 32 (53%) of TruGreen ChemLawn's pesticide products include ingredients that are possible carcinogens, as defined by the United States Environmental Protection Agency (EPA) and the World Health Organization's International Agency for Research on Cancer (IARC).^{xliii}
- All 32 (100%) of TruGreen ChemLawn's pesticide products include ingredients that pose threats to the environment including water supplies, aquatic organisms, and non-targeted insects.
- 9 of 32 (28%) of TruGreen ChemLawn's pesticide products include ingredients that are known or suspected reproductive toxins (7 out of 32 known, 22%).
- 11 of 32 (34%) of TruGreen ChemLawn's pesticide products include ingredients that are known or suspected endocrine disruptors (4 of 32 known, 12.5%).
- 13 of 32 (41%) of TruGreen ChemLawn's pesticide products include ingredients that are banned or restricted in other countries.

Even though these pesticides are proven to be hazardous to public health and the environment, EPA's pesticide regulatory system has put its stamp of approval on the use of these pesticides. Although a growing pool of research links exposure to the pesticides used by TruGreen ChemLawn to nausea, vomiting, dizziness, and headaches and chronic illness like lymphoma, leukemia, bladder cancer, and learning disabilities, the EPA continues to register these pesticides for commercial and residential use.

2003 Dirty Dozen Award

Citing their widespread promotion and use of toxic pesticides on residential lawns and town fields, a coalition of local and statewide environmental and public health groups including Toxics Action Center and Healthlink staff presented TruGreen ChemLawn with a Dirty Dozen Award. At the time, TruGreen ChemLawn was aggressively marketing their lawn care chemical service to homeowners and to municipal/commercial property owners through advertising, mass mailing, and telemarketing. For example, the company had bought the U.S. Youth Soccer Association's mailing list to advertise its product, pledging money to the U.S. Youth Soccer Association if soccer parents signed up for TruGreen ChemLawn lawn care services.

TruGreen's Response

Since receiving the Dirty Dozen Award, TruGreen ChemLawn has changed their name to simply TruGreen and has ended their partnership with the U.S. Youth Soccer Association. TruGreen continues to dump tens of millions of pounds of dangerous pesticides on lawns each year, uses aggressive marketing techniques involving children, and refuses to disclose all of the ingredients in their lawn care products.

2007 Dirty Decade Award

TruGreen is being awarded the Dirty Decade Award in 2007 because of their refusal to protect the health and safety of children, pets, and the environment by eliminating, or even reducing, the amount of dangerous pesticides in their lawn care product. Public opinion on this issue is clear. A coalition of environmental, worker safety, religious, and public health groups spanning from California to Florida and Maine has joined together to call on TruGreen to clean up their product.

Solution for TruGreen's Pollution

TruGreen should:

- **Phase out the use of pesticides.** TruGreen should immediately stop the use of those pesticides considered possible carcinogens by the EPA and the IARC.
- **Disclose all ingredients in their pesticide products,** including the so-called inert ingredients. TruGreen should educate consumers by readily providing information to its customers over the phone, in writing, and on its website about the health and environmental effects of its products.
- **Offer a comprehensive organic lawn care program** that does not use pesticides or synthetic fertilizers. TruGreen should require its applicators to pass an accredited organic lawn care program.
- **Protect workers while phasing out pesticides.** Until phasing out the use of dangerous pesticides, TruGreen ChemLawn should provide adequate protective equipment to employees who apply its products and require companies that wash its uniforms to protect workers by handling the contaminated laundry separately.
- **Stop using children to market products.** TruGreen should not enter into any promotional campaign similar to its partnership with U.S. Youth Soccer.

Casella's Juniper Ridge Landfill – Old Town, ME - 2004

Casella's Toxic Legacy

Casella Waste Systems (Casella) has grown to be “the number one or number two provider of solid waste collection services in 80% of the areas served by [its] collection divisions”^{xliv} in New England. Casella employs aggressive expansion strategies and has grown to own and operate more than 45 landfills and trash transfer facilities as well as 39 recycling facilities across the region.

In November 2004, the State of Maine bought Georgia Pacific's Juniper Ridge landfill for \$26 million. Casella provided the money for the transaction.^{xlv} The landfill was originally permitted to dispose of waste from the paper-making process from the Georgia Pacific mill. The sale of the landfill to the State of Maine took financial pressure off of Georgia Pacific, provided resources for the company to keep its mill open, and allowed Casella to operate the site. Casella later received approval for a major vertical expansion to the landfill, which could keep the dump open for another fifteen years. This is a beneficial arrangement for Casella because there is a ban on new commercially owned landfills. In the case of the Juniper Ridge Landfill, the state amended the existing license to increase the types of waste accepted at the landfill and the vertical elevation of the landfill.

2004 Dirty Dozen Award

In 2004, residents were angered by the plan to expand a paper mill dump into a state-owned but Casella-run landfill. Monitoring wells at the site exceeded federal guidelines for cadmium, phosphorous and manganese. Private drinking water wells up to a mile away from the site are experiencing elevated levels of chloride, sodium, lead, and arsenic. Residents were concerned that a landfill expansion would increase the threat of contamination to local drinking water wells. Also, if the dump expanded its height from the previously licensed elevation of 270 feet tall to 390 feet, it would become the highest point in Old Town. These concerns led residents to nominate the site for a 2004 Dirty Dozen Award, which was given by We the People and Toxics Action Center staff.

Juniper Ridge, State Regulator's Response

From the beginning of operation, Casella planned to dramatically increase the landfill's size. The landfill was originally licensed to hold 3.3 million cubic yards, and Casella proposed an expansion to 10 million cubic yards.^{xlvi} The agreement between Casella and the state allows the landfill to accept 540,000 tons or more of waste per year, with increasing amounts each year. If the next expansion permit (which is currently in the planning process) is approved, the Old Town landfill will be accepting waste for the next 30 years. The application could be accepted by the DEP any day.^{xlvii} We the People, a community group working to stop the expansion, lost a Maine Board of Environmental Protection appeal to deny the license in 2005. The group is now working through the state's legal processes to stop the proposal.

Throughout the process of selling and expanding the Old Town landfill, there was limited opportunity for public input. Area residents made five requests for a public hearing on the landfill transfer proposal, yet the Maine Department of Environmental Protection (DEP) repeatedly denied their requests.^{xlviii} In April of 2004, without a public hearing, the DEP approved Casella's permit to accept construction and demolition debris, sludge, and special solid waste that includes out-of-state municipal solid waste bypass and raise the permitted

elevation from an existing 60 feet to a new height of 180 feet above natural grade on 68 acres. Citizens group, We the People, appealed the decision to grant a permit amendment, and appealed the state's refusal to hold an adjudicatory hearing.

Additionally, Casella has accepted materials later tested to be hazardous waste without a permit and without repercussions from the state. The state DEP fails to check Casella's waste for radioactivity, a violation in other New England states for which Casella has been accused multiple times, recently in Holliston, Massachusetts.^{xlix}

2007 Dirty Decade Award

Casella's Juniper Ridge facility is given the Dirty Decade Award because of the poor operation of the facility and the pollution it has caused. There have been serious drinking water contamination issues and little to no public input in the permitting process. Casella keeps pushing for expansion of the landfill, which already landfills more than 450,000 tons of waste each year. If the expansion goes through and the landfill triples in size, Juniper Ridge will be the largest landfill in the state.

Solution for Casella's Juniper Ridge Landfill Pollution

The DEP should shut down the landfill, charge Casella for clean up of the leachate impacting local drinking water supplies, and burn off the hydrogen sulfide gas that the landfill is emitting. The state should also stop importing out-of-state waste.

In addition, Maine should actively work to reduce overall trash generated through a "zero waste" strategy and stop the use of incineration. Zero waste includes 'recycling' but goes beyond by taking a 'whole system' approach to the flow of resources and waste through society. Zero waste maximizes recycling, minimizes waste, reduces consumption and ideally ensures products are made to be reused, repaired or recycled back into nature or the marketplace. Resources currently move through our society in a largely linear fashion: raw materials are extracted, processed into consumer goods, consumed, and disposed of through burning or burial. A zero waste model offers a circular system of resource management in which the resources discarded each day are looped back in the economy to be reused, reprocessed, or composted. In treating discarded resources as actual resources, we curb the pollution threats of waste disposal and save enormous amounts of energy. Zero Waste also reduces the need for virgin material extraction.

The work of creating a zero waste future falls to industry in its design of products and packaging; to government in its policy and management decisions; and to communities who can make themselves part of the process by working with industry and government to develop innovative and effective policies and programs. At present, 70-90% of what is discarded can be recycled, reused, or composted.⁸ Zero waste programs are now underway across the United States and country. Programs include: Seattle, Washington; Carrboro, North Carolina; Central Vermont and San Francisco, California.

Entergy Nuclear Vermont Yankee – Vernon, VT – 2004, 2006

Vermont Yankee’s Toxic Legacy

Entergy Nuclear Vermont Yankee, which sits on the banks of the Connecticut River in Vernon, Vermont, threatens the safety of residents throughout Vermont, New Hampshire, and Massachusetts. Vermont Yankee has produced more than one million pounds of nuclear waste since the facility opened in 1972, and all of it is stored on site at the power plant.¹ High level nuclear waste from Yankee is composed of unstable metals which will release lethal doses of radioactivity for hundreds of thousands of years to come.^{li}

The most concerning matter is Vermont Yankee’s safety record. In 2004, Vermont Yankee finally reported to the Nuclear Regulatory Commission that they had lost two spent fuel rods sometime after 1980.^{lii} Similarly in 2004, on June 18, Vermont Yankee experienced a fire in their main transformer.^{liii} In 2005, while Yankee claimed adequate safety margins in an emergency situation, federal regulators reported that Vermont Yankee operators would have a margin of error of just 18 seconds to shut down the plant should an accident occur.^{liv} By August 2007, Local 300 of the International Brotherhood of Electric Workers, representing one-third of Yankee employees, had issued a statement voicing workers’ concern for the declining safety margins at the plant.^{lv} Within a month of this statement, two accidents occurred at the plant – the collapse of one of the cooling towers^{lvi} and the malfunctioning of a steam valve,^{lvii} resulting in an immediate shut-down of the plant. By November 2007, not only Yankee workers, but also those working at Pilgrim Power Station recognized problems with the safety of Vermont Yankee.^{lviii}

Despite these failures and continued safety concerns, Entergy Nuclear has applied for re-licensing when its license expires in 2012. Their blatant disregard for public health and safety has earned them two Dirty Dozen Awards in ten years.

2004, 2006 Dirty Dozen Awards

Citing increased toxic waste and security risks, the New England Coalition nominated Entergy Nuclear Vermont Yankee for a Dirty Dozen Award in 2004 in protest for its petition that year for re-licensing. That year’s selection committee agreed that the nuclear reactor was deserving of the award, and officially named Vermont Yankee one of the Dirty Dozen. The application for re-licensing is still pending approval by the Nuclear Regulatory Commission (NRC).

In addition to applying for a new license, Vermont Yankee began increasing its energy production in 2004 to 20% above capacity or a total 650 megawatts, creating nuclear waste at an even higher rate than before and storing it on site in the spent fuel pool six stories off the ground as well as in dry casks along the banks of the Connecticut River. This increase of power production put a strain on the aging plant, but created a much larger profit for the plant’s owner. Vermont Yankee was nominated for a second time for this reason. The waste stored on site as well as the irresponsible, short-sighted operating procedures ultimately won Entergy this dubious honor.

Entergy, State & Federal Regulator’s Response

Since the 2006 award Entergy Nuclear Vermont Yankee has had to substantially reduce, if not halt energy production in the wake of two major malfunctions: the collapse of a cooling tower and the failure of a steam valve. Still, Entergy Nuclear Vermont Yankee is seeking permitting

to continue electricity generation after its 2012 decommissioning date. However, future operations of Vermont Yankee will likely not be as part of Entergy Corporation. Currently, Entergy has plans to consolidate its nuclear plants, spinning off the ownership of Pilgrim Nuclear Station, the FitzPatrick and Indian Point Energy Center plants, the Palisades plant, and Vermont Yankee to form SpinCo.^{lix} Speculation is that Entergy is making this move to avoid becoming bankrupt by charges associated with an accident or in the decommissioning of the plant.

With the passage of Act 160, Vermont's General Assembly reaffirmed its authority to uphold the 2012 decommissioning date and deny Vermont Yankee's request to continue operating. Additionally, Act 160 established the requirement of reports on the financial security of the plant and on environmental, economic, and public health issues regarding the plant before Vermont Yankee's extended lifetime can be considered.^{lx} The studies are currently ongoing.

Currently, the nuclear industry, nationally, is planning on building 28 new nuclear reactors,^{lxi} with the help of \$13 billion in federal subsidies directed toward nuclear plant construction.^{lxii} The research and development of nuclear power technologies is also subsidized. In fact, nuclear research and development is the most highly subsidized of electricity generators, totaling \$1.2 billion in the fiscal year 2007.^{lxiii}

2007 Dirty Decade Award

Entergy Nuclear Vermont Yankee receives the Dirty Decade Award for the threat this nuclear plant poses to the environmental and human health of the surrounding Vermont, New Hampshire, and Massachusetts communities for generations to come. As an aging, yet still active nuclear reactor, operating above capacity, Vermont Yankee represents a very real threat of nuclear disaster. Additionally, the million pounds of radioactive waste, and the terrorist target they will represent for years to come, only adds to the potential for true tragedy.

Solution to Vermont Yankee's Pollution Problems

Vermont Yankee should be decommissioned when its operation permit expires in March 2012.^{lxiv} The decommissioning fund currently being amassed by Entergy should safely dismantle this nuclear plant. Spent nuclear rods should be encased in the highest standard concrete casks and held in earthen berms. Additionally, Vermont Yankee should not be transferred to SpinCo. Entergy should take responsibility for its aging nuclear plants and not pass the buck in order to protect profits.

Wheelabrator Technologies – Claremont, NH – 2004

Wheelabrator’s Toxic Legacy

In New Hampshire, Wheelabrator Technologies operates two trash incinerators: a 250-ton per day municipal solid waste facility in Claremont and a 500-ton per day site in Concord. Toxic air emissions from incinerators, including particulates, sulfur dioxide, carbon monoxide, dioxins/furans, volatile organic compounds (VOCs), and heavy metals pose a substantial and ongoing health risk to residents living nearby.^{lxv}

For 22 years Wheelabrator has been operating in Sullivan County and exposing residents of Claremont to toxic chemicals. Emissions from the Wheelabrator incinerator contain more than 200 known chemicals including mercury, dioxin, lead and cadmium.^{lxvi} Quarterly Excess Emissions Reports filed with the New Hampshire Department of Environmental Services (DES) Air Resources Division show emissions violations for every quarter from 1987 until 2002. Two years ago, Wheelabrator installed “retrofit” equipment designed to reduce mercury pollution from the incinerator smokestack. However, the 2005 data, submitted by Wheelabrator to DES show increased emissions for cadmium, dioxin, particulates, sulfur dioxide, and lead.^{lxvii} Lead emissions, in particular, increased 22 times post-retrofit.^{lxviii} Increasingly residents have complained of respiratory illnesses, auto-immune diseases, learning disabilities and cancer.

2004 Dirty Dozen Award

Citing public health and environmental threats from the release of dangerous toxins emitted during trash burning, Claremont residents and Toxics Action Center staff presented the operators of the Wheelabrator Claremont incinerator with a 2004 Dirty Dozen Award.

Wheelabrator, State & Federal Response

The Wheelabrator incinerator has continued to operate since receiving the Dirty Dozen Award in 2004. Their Title V Operating Permit, the federal permit which allows Wheelabrator to emit air pollution, was amended and renewed on June 28, 2004.^{lxix} Approximately 60% of the incinerator’s disposal capacity is filled with trash brought in by the Vermont-New Hampshire Solid Waste Project. The purpose of the Project was to develop joint solid waste disposal facilities in the region, and it provided Wheelabrator with a certain degree of financial stability. The Project’s contract with Wheelabrator expired on June 30, 2007 and was not renewed. This opens the door for Wheelabrator to import more waste from more states and the loss of the financial safety net gives the company an incentive to bring in more trash to ensure more profit. In fact, in September 2007, Wheelabrator indicated that it has plans to expand their operation in Claremont.^{lxx} The 2004 Dirty Dozen Award was one factor that led to a coalition of concerned legislators and citizens joining together to address the state’s solid waste crisis. In 2006, this coalition successfully passed a ban on the incineration of construction and demolition debris.^{lxxi}

2007 Dirty Decade Award

Wheelabrator Technologies receives the Dirty Decade Award for the continued impacts of its Claremont incinerator on the health and environment in Sullivan County. Wheelabrator claims to be a safe and environmentally-sound renewable energy company.^{lxxii} This assertion is based on the fact that some energy is produced by the facility while incinerating trash, but this is very misleading. The inevitable creation of toxic ash and emissions, evidenced in Wheelabrator’s own emission reports, clearly shows that producing energy while simultaneously disposing of

waste does not make a facility safe or clean. Additionally, claims of volume reduction in the waste-to-energy process are fallacious because they ignore toxic ash and air emissions. Finally, the on-going cost of generating electricity from a waste-to-energy plant is at least twice that of a thermal power plant, and so can't be justified for either energy generation or waste abatement.^{lxxiii}

The continued operation of the Wheelabrator incinerator is indicative of New Hampshire's larger solid waste crisis. In 2005, New Hampshire produced 1,845,969 tons, about 1.4 tons per person, of municipal solid waste.^{lxxiv} Approximately one-third of that (465,616 tons) was recycled or composted. 878,429 tons was land filled or incinerated. The remaining 7% was exported.^{lxxv} With few exceptions, the amount of municipal solid waste produced in New Hampshire grows each year. New Hampshire is home to 155 inactive unlined landfills, 8 active landfills,^{lxxvi} and 7 incinerators;^{lxxvii} all these facilities carry significant threats to public health and the environment.

Solution to Wheelabrator's Pollution

The Wheelabrator incinerator in Claremont should be phased out and the state should actively work to reduce overall trash generated through a "zero waste" strategy while moving away from incineration. When the New Hampshire legislature and Governor Lynch recently banned burning of construction and demolition debris, the state recognized the health and environmental dangers of incinerating unsafe waste.^{lxxviii} The dangers of incinerating municipal solid waste are similar.

Zero waste is a goal and a model. It includes 'recycling' but goes beyond by taking a 'whole system' approach to the flow of resources and waste through society. Zero waste maximizes recycling, minimizes waste, reduces consumption and ideally ensures products are made to be reused, repaired or recycled back into nature or the marketplace. Resources currently move through our society in a largely linear fashion: raw materials are extracted, processed into consumer goods, consumed, and disposed of through burning or burial. A zero waste model offers a circular system of resource management in which the resources discarded each day are looped back in the economy to be reused, reprocessed, or composted. In treating discarded resources as actual resources, we curb the pollution threats of waste disposal and save enormous amounts of energy. We also reduce the need for virgin material extraction and provide for market incentives, innovation, and economic growth.

In order for zero waste to be successful, elected officials, corporations, and the public must begin shifting how we perceive and treat waste. Waste can no longer be thought of as worthless trash, but as resources – from reprocessed plastics to compost fertilizer. Corporations such as Wheelabrator have a role in a zero-waste system. The way our society currently manages waste is highly uneconomical. Waste costs money as landfills and incinerators must be permitted, constructed and then operated, and are usually backed by public money. The private sector realizes profit while the public sector bears the risks. When landfills leak, the cost of remediation is in large part endured by taxpayers. Similarly, medical costs are accrued by those living in the communities. Recovered resources, however, produce money as processed materials are resold into the market. Recovery similarly minimizes the long-term costs of landfill risks and remediation. In creating closed loops of resource flow, zero waste turns discards into jobs—not trash.^{lxxix} For every ton of discarded materials, there are approximately ten times more jobs in the recycling and reuse sectors than there are in disposal."^{lxxx}

The work of creating a zero waste future falls to industry in its design of products and packaging; to government in its policy and management decisions; and to communities who can make themselves part of the process by working with industry and government to develop innovative and effective policies and programs. Zero waste is a goal that may seem at first as unrealistic as the goal of zero accidents or zero emissions. However, such lofty goals drive the establishment of the systems and training necessary to make the goals attainable. At present, 70-90% of what is discarded can be recycled, reused, or composted.^{lxxxix} Zero waste programs are now underway across the United States. Programs include: Seattle, Washington; Carrboro, North Carolina; Summit Counties, Colorado; Central Vermont Solid Waste Management District (in the same region as Claremont); Matanuska-Susitna Borough, Alaska; and Oakland, San Luis Obispo, Santa Cruz, Berkeley, Burbank, Palo Alto, and San Francisco, California.

Charbert Mill – Alton, RI – 2005

Charbert's Toxic Legacy

Charbert Dye Company has bleached and dyed fabrics and other material since it purchased its site in 1962 in the village of Alton, near the town of Richmond. In order to treat its production waste, Charbert built four open-air lagoons on its factory site. The lagoons were constructed “with DEM approval to allow process wastewater from the Manufacturing Facility to infiltrate into the underlying soil”^{lxxxii}; a wastewater management system that has proven to affect Alton’s groundwater supply.^{lxxxiii} And, because they are outdoor lagoons, odors can waft into the air in the community.^{lxxxiv} In addition, the water from the waste evaporates and leaves behind a film that is scraped and placed into solid waste piles, which are illegally stored on the property.

When residents reported air quality problems in 2004, the Department of Health detected hydrogen sulfide at levels high enough to be considered a nuisance and a violation of air pollution regulations. Hydrogen sulfide fumes from the plant are linked to headaches, nausea, and respiratory problems among residents. But after aerators were installed, residents report that odors disappeared.

In 2003, twenty drinking water wells in the neighborhood showed elevated levels of toxic chemicals like MTBE and TCE, high levels of bacteria, and dye chemicals used at the plant. MTBE is a gasoline additive with a strong, unpleasant odor and often causes health effects including headaches, nausea, dizziness, irritation of the nose or throat, and feelings of confusion.^{lxxxv} TCE, or trichloroethylene, in high levels is linked to liver and kidney damage, and, in more and more studies, has been linked to birth defects.^{lxxxvi} There have also been studies, though inconclusive, that have linked TCE in drinking water to higher incidence of childhood leukemia.^{lxxxvii}

In August 2004, the Department of Environmental Management (DEM) issued a Notice of Violation against Charbert for violating numerous state wetlands, hazardous waste, odor, and water quality violations, fining the company \$9,500.^{lxxxviii} This was an important step. However, the lagoons, the main source of the contamination problems, were not ordered shut down.

2005 Dirty Dozen Award

In 2005, members of Alton Community Action and Toxics Action Center staff presented Charbert Mill with a Dirty Dozen Award for failure to follow through on their responsibility to protect the health and safety of the residents in the village of Alton. Earlier that year, in June 2005, Charbert and DEM signed a consent agreement, disqualifying the previous Notice of Violation in 2004, which contained deadlines for the company to pay fines and meet an air and water compliance timeline. The Consent Agreement stalled any significant progress in solving the open and unlined lagoon problem, and also the air compliance issue. In addition, the town of Richmond fought for and won the right to participate in negotiations between DEM and Charbert as an Intervener in March 2005. Unfortunately, the DEM and the company met without the town anyway to reach their final agreements to find a solution to the air quality problems. The Dirty Dozen Award highlighted the lack of accountability between DEM and Charbert, and the continuing danger posed to residents because the most significant problems posed by the plant have not been addressed.

Charbert, State & Federal Regulator's Response

Since 2005 the Town of Richmond has been asking Charbert for a complete groundwater investigation following the Rhode Island Department of Health's advisement that local residents not use wells for household uses due to Charbert's contamination of groundwater. In fall of 2007, groundwater samples were taken from three wells near the mill and split for simultaneous analysis by environmental consultants hired by Charbert and others hired by the Town of Richmond. Though this was only a partial investigation, the results are cause for concern; showing, for example, PCE (tetrachloroethylene) levels over 1,000 times higher than DEM state standards for GAA aquifers (groundwater presumed suitable for drinking water) of 5 ug/L.^{lxxxix}

Michael Sullivan, the current commissioner of DEM, is also a resident of Richmond and a former president of the town council. For this reason he has recused himself from decision-making regarding the Charbert clean up. Residents believe this recusal has weakened DEM's resolve to pay proper attention to their case. Finally, the state Superior Court still has not ruled on whether the Town of Richmond should be granted Intervener status in negotiations between DEM and Charbert.

2007 Dirty Decade Award

Charbert Mill receives the Dirty Decade Award for its minimal strides to fully investigate the extent of contamination on the Charbert property and in the surrounding areas, as well as failure to implement new wastewater treatment technologies that both reduce the volume of wastewater and treat wastewater effectively before seepage into bedrock aquifers. The owners of Charbert have also recently announced that they will discontinue operations as of February 2008. Residents are concerned for the 100 workers slated to be laid off, and worry that closing the plant may signal an abdication of responsibility on the part of Charbert to pay for a clean up of the site.

Solution for Charbert's Pollution

The solution for Charbert's pollution is for a full investigation of the area to be conducted. This investigation would determine the extent of the contamination, where it has traveled (even beyond Alton to other villages), which residents it affects, and if it has seeped into bedrock aquifers. Then DEM must require that Charbert pay for the full clean up and complete it as soon as possible. If Charbert continues plant operations, new wastewater technologies should be developed to deal with contaminated water from the mill; and if the mill closes, the issue of the wastewater lagoons must be dealt with as part of the full clean up. In this process, residents and the Town of Richmond must be treated by DEM as allies in the process of holding Charbert accountable—the town should be allowed intervener status, and residents should be notified of all actions taken by DEM or Charbert and be part of the discussions that lead to decisions being made.

Gorham/Textron Disposal Site – Providence, RI – 2005

Gorham/Textron’s Toxic Legacy

The Gorham/Textron disposal site is located at 333 Adelaide Avenue in Providence. The property was bought in the 1890s by the Gorham Manufacturing Company for the manufacturing of silver and bronze flatware, and for decades, eight acres of the land were used as the factory’s dumping ground.^{xc} From 1967 to 1985 the company operated under the name Textron. According to the EPA, “manufacturing processes at the factory included casting, rolling, polishing, lacquering, forging, plating, annealing, soldering, degreasing, machining, and melting metals” and “substances used in these processes included heavy metals, cyanides, corrosive stripping agents, lubricants, solvents, lacquers, thinners, and metal degreasing solvents.”^{xcii}

Concerns about the site began in 1987 when the Providence Police Department “discovered waste in 55-gallon drums at the bottom of Mashapaug Pond and reported skin rashes upon direct contact with the pond water.”^{xciii} During the 1990s, the City of Providence foreclosed on the property and worked to knock down most of the on-site buildings, while Textron contracted out for a remedial investigation.^{xciii} Steps to remediate the site occurred in 1997, when 2.5 cubic yards of soil contaminated with polychlorinated biphenyls (PCBs) were removed and in 1998 when two 30,000-gallon underground storage tanks (USTs) containing No. 6 fuel-oil were also removed. In the mid-1990s two groundwater plumes contaminated with volatile organic compounds (VOCs) also were discovered at the property, including perchloroethylene (PCE), TCE, and TCA.^{xciv} Soil testing results show that the site is “contaminated with heavy metals, petroleum hydrocarbons, PCBs, polycyclic aromatic hydrocarbons (PAHs), VOCs, and metals.”^{xcv}

The City of Providence knocked down factory buildings and buried them on the site after taking ownership, and has subsequently built a school and daycare on a portion of the property. Other redevelopment plans on the land have faltered, including a grocery store that was built and then shut down after only a few years of operation due to indoor air quality concerns, and a plan for a YMCA, which the organization recently backed out of. Approximately 28,244 people reside within 1-radial mile of the property.^{xcvi}

2005 Dirty Dozen Award

Residents of Adelaide Avenue, members of the Mashapaug Pond Association, and Toxics Action Center staff presented Gorham/Textron with a 2005 Dirty Dozen Award. At that time, the only remediation that had taken place is the previously-mentioned removal of PCB-contaminated soil in 1997 and the two large underground storage tanks of fuel oil in 1998. In 2005, prior to the Dirty Dozen Award, residents and Rhode Island Legal Services brought undetected contamination—a lead slag pile—to the attention of the DEM. This discovery launched a new investigation of the site and all construction plans for the property, including the school proposed by the city, were ordered by the courts to stop. The city, however, pushed to speed up DEM’s investigation and clean-up in order to hasten school-siting.^{xcvii} The Dirty Dozen Award was an effort by residents to bring attention to this problem as they were concerned that a full clean up of the property would not take place before the school and the then-proposed YMCA were built.

Gorham/Textron, State & Federal Regulator's Response

At this time, the DEM is waiting for a "Remedial Action Work Plan" for the property from the owner, Textron.^{xcviii} All site investigations to-date have been conducted by environmental consultants hired by Textron and they have presented a preliminary remediation proposal to the public for a portion of the site closest to the pond. The entire property has been divided into smaller parcels to be remediated separately by Textron—one designated for the now-closed grocery store, one for the currently-operating school, another for the previously-planned YMCA, and the final parcel abutting the school that borders the pond that is slated for a future park. The site is currently designated by EPA as "Other Cleanup Activity - State Lead"—meaning that further investigation and any necessary cleanup actions are being performed under the state agency's supervision.

2007 Dirty Decade Award

The Gorham/Textron site is winning the 2007 Dirty Decade Award because of efforts to push through redevelopment of the property without fully understanding the extent of the contamination or what a proper remediation would necessitate. DEM and Textron are working to develop a plan to remediate the pond parcel of the site, but the rest of the site continues to require – but not receive – their immediate attention.

Solution for Gorham/Textron's Pollution

The solution for the Gorham/Textron site begins with ascertaining the true levels of contamination on the site, including on the high school and grocery store parcels where buildings currently stand. This is especially important for the staff and students who currently attend the school. Some investigation prior to the school's construction was conducted but there were data gaps and only the first four feet of soil were tested, though there may be pools of PCE that have collected below that level.^{xcix} Because the Stop and Shop grocery store closed due to indoor air quality concerns, there is an even greater need to understand the extent of the contamination of all the parcels on the site – including land parcels for the school, grocery store, and previously-proposed YMCA, as well as the pond parcel – and to do a more extensive cleanup than was previously conducted. In addition, if the grocery store building itself must be taken down, the city must ensure a full remediation of the site to levels that are fit for commercial development, and, importantly, that the property does eventually get developed and does not sit vacant, blighting the neighborhood. The importance of public participation and notification in this process cannot be overstated. DEM's site remediation program, to the extent that it is not currently, must provide avenues for resident input and engagement and ensure that residents are able to access their own experts and information to understand contamination in their neighborhoods.

Conclusion

As noted previously, most of the Dirty Decade Award winners are dinosaurs. Their business practices have not changed with the times and are becoming extinct. If the twelve Dirty Decade Award winners, regulators and legislators adopted the recommendations outlined in this report, they would not only demonstrate an ability to change with the times, their efforts would also result in a cleaner, safer and healthier world.

Adding "polluter pays" back into Superfund would shift the financial burden of hazardous waste clean ups from the taxpayer to the polluter; adopting a zero waste model would strengthen our economy while moving from burning and burying trash to more sustainable practices; phasing out nuclear power and storing the radioactive waste in the safest methods onsite would help to promote renewable energy options and could shift subsidies from the nuclear industry toward energy options like wind and solar; and phasing out persistent toxic chemicals class by class will ensure healthier pregnancies, healthier children and a higher quality of life. Systems, industries and policies already exist to implement these recommendations, and the result would be a safer world for all of our families.

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